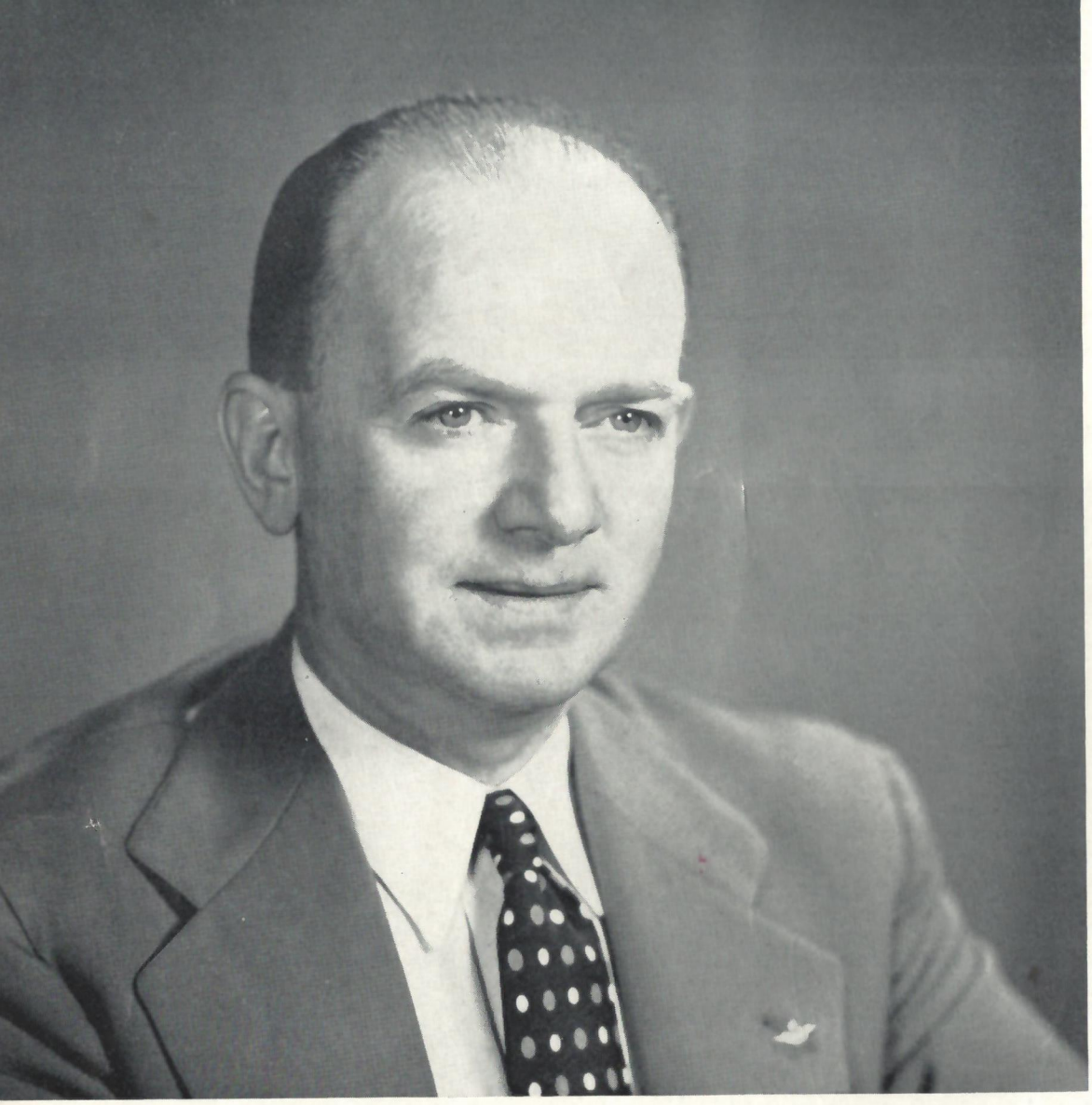
THE MARTIN STAR

July 1943

Invest In Independence
With War Bonds



Norman Stewart, Factory Manager, Glenn L. Martin-Nebraska Company

He's A Canny Scot

WITH a Scottish burr to warm the cockles of the heart, Norman Stewart, Factory Manager of the Martin-Nebraska Company has attained recognition as one of the aircraft industries' top men in his end of the business. Born near Glasglow, Scotland, in 1900, Stewart served his apprenticeship as a mechanic during the World War I, when he was a wireless operator in the British Royal Navy.

With greener pastures beckoning in the United States, but without any definite leads, Stewart made the crossing in 1921 that was to shape the course of his future life. Following a short association with the National Hoist and Engine Company, he joined the Otis Elevator Company at Yonkers, New York, as a machinist inspector. This connection might have lasted indefinitely but for the fact that his wife's parents lived in Baltimore. Frequent visits made by his Scottish wife to her parents finally convinced him that the Maryland city would be a desirable place in which to live.

The Martin Company was in need of first-class machinists, and Stewart was anxious to become associated with the aircraft industry. In joining this organization, he knew they were a pioneer in the industry and that even in 1930 there was evidence to indicate the high position that the Martin Company held among plane manufacturers.

Using hard work as the stepping-stones for his success with the Martin organization, Stewart advanced to Assistant Supt. of Plant No. 2, Body Division. When the opportunity presented itself of becoming Factory Manager of the Martin-Nebraska Company, Norman Stewart accepted the additional responsibilities willingly.

Since joining the Nebraska organization, all production schedules have been met. New ideas and improvements have been incorporated to speed production. The Factory Manager is particularly proud of his organization.

"These men and women are the finest people in the world to have working with you," Stewart recently said. "It is satisfying to know they are capable of shouldering responsibilities whether it be a seemingly insignificant detail job or that of managing a department."

Although most of his time is spent working at the plant, Norman has found time to develop hobbies. While at Baltimore, he helped to organize, and also played, on the Company's soccer teams. As a lad in Scotland, he spent many hours on the famous St. Andrews Golf Course. His proficiency in this sport made him seriously consider the field of professional golf as a livelihood. In more recent years, he has had to content himself with an occasional game, although he still enjoys playing with his friends and suggesting a correction in their game that will improve it.

During his years with the Martin organization, he has worked with all of the various types of Martin planes. He is particularly proud of the record that the B-26's have been making in action. In this record, he sees a personal endorsement for all Martineers in putting their best into the building of this ship.

From the people who have worked for him come the highest recommendation for the able Scotsman. To them, Norman Stewart is more than "just the boss"; he is a fellow worker whose knowledge of their work was gained the same way they have learned their work . . . by doing. A new idea or a method of production that will save time is discussed and carefully analyzed by the Factory Manager. If it is practicable, then he takes the necessary steps to have it put into effect if it is at all possible. If it is not practical, then it is discarded, but only after the individual suggesting the idea is shown why it would not work. This has made harmony within Stewart's organization, and a strong personal liking by all with whom he comes in contact.

Like so many of the top-notch executives in the Martin organization, Stewart has worked up to his present position, the hard way. This helps to account for his keen understanding of human nature. Endowed with more than usual modesty, Stewart is satisfied to let his record speak for him. A record which is high-lighted with difficult jobs . . . well done.

After the completion of the war, Norman hopes to return to Scotland to visit the various places he knew as a boy. Like most Scotsmen, he is proud of the Stewart clan which dates back to the days of early Scotch history. The Scotch plaid for the Stewart name in Scotland, of which Norman is very proud, tells of other generations of Stewarts that have scored successes. This background of tradition helps to account for the successful accomplishments that the Factory Manager has effected.

THE MARTIN STAR

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Independence

INDEPENDENCE DAY has a very special significance this year. As we pause briefly to remember the struggle of our forefathers to establish our own independence, we must realize that once again we fight for that principle, not only for ourselves but for the rest of the world.

It has another significance, too. When we won our freedom from oppression, we set up upon this continent the right of the individual—the right to think, to speak, to worship as our conscience dictates; the right to assemble peacefully and to petition; the right to elect our governors and tell them how we want to be governed.

The whole issue in this world struggle is collectivism vs. individualism. We as individuals have a vital interest in the outcome; therefore, we as individuals have an equal responsibility to assure that the outcome shall preserve our rights. In the Axis nations and those once-free countries under their yoke, the individual has no identity, no voice, no rights. He must surrender all to the state—a state governed by a dictator and his satellites by the doctrine of fear and the persuasion of machine-guns.

We have no guns at our backs to force us to face the guns at our fronts. We willingly entrust to our elected President the direction of our fight. We rally under that symbol of free men — the Flag of the United States of America—and our soldiers and sailors and airmen follow faithfully the voice of elected authority.

We who are not called upon to fight are called upon to serve in whatever capacity we are best able to serve. Here again the freedom of the individual finds full expression. We are not forced into harness. We are allowed to select our own field of endeavor. We may be factory craftsmen, shipyard workers, farmers, WAACs, WAVES, SPARS or any one of hundreds of other aides in the war effort. Our money and our goods are not expropriated, as they would be in Axis nations. We are only asked to lend our money to carry on the war and to give out of our bounty the financial support needed by such great human organizations as the Red Cross and Community Funds. We are *asked,* mind you, not commanded.

How great, then, is our individual accountability! No one has to tell the soldier, the airman, the sailor or the marine how hard to fight. His life is at stake. No one tells us in civil life how full must be the measure of our devotion; it is presumed that each of us knows that his own freedom, not to mention the lives of his friends, is at stake. No one knows how much of ourselves we are giving—none but we ourselves and our consciences.

Heroism belongs to the individual, not to the group. The men at the front who wear the medals are those who have gone beyond the ordinary requirements of duty; men who have placed the values of liberty and decency above their own lives. The splendor of such sacrifice is not for us who make the weapons of war; no one asks us for our lives—only for our efforts and our determination that nothing will swerve us from this our duty. The price is cheap, the commodity priceless. There is no room in such a cause for pettiness and selfishness.

As a nation we fight and work for the rights of the individual; as individuals we must back to the limit the fight of the nation.

July 1943 ★ **EDITORIAL STAFF** ★ **Vol. II No. 6**

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Editorial Offices, The Glenn L. Martin-Nebraska Company

ON THEIR WAY. *A flight of Martin Baltimores on their way to attack the enemy during the Battle of Africa.*

"Shuttle Service" Star

JUST over a year ago the first Martin "Baltimore" arrived in the Western Desert. Within a few days of its arrival it was playing an important role in the battle of Egypt.

Pilots took to the new plane at once. It marked, in their view, a great advance on the old "Maryland," which had done sterling service in the early days of desert warfare. They found it fast and reliable and well able to take care of itself when attacked by enemy fighters.

For several months it carried out long range reconnaissance flights, spotting enemy troop movements and the locations of shipping in Italian and Greek harbors. The information thus gained was of inestimable value both to the Naval Staff in the Mediterranean and the Air Striking Force under Air Vice Marshal Sir Arthur Cunningham.

Later, it was decided to use the Baltimore as a day bomber, possibly without fighter escort. To the Royal Air Force fell the honor of putting the first squadron of Baltimores into the field as a day bomber squadron. The experiment soon proved successful. They carried a useful bomb load and, flying in tight formation, contained such deadly fire-power that enemy fighters preferred to keep at long range. Time and again Baltimore crews returned with stories of successful combats with Axis fighters.

Recently, over the Mareth Line, one more than usually ambitious enemy fighter succeeded in penetrating a top-cover of Spitfires and dived on to the Baltimores. In a matter of seconds it was falling in flames and crashed on the ground. No one quite knew who had got it, so it was claimed jointly by three rear gunners who were each credited with a third.

Back in the days of El Alamein, the Baltimore was in the forefront of the struggle for air supremacy. As Rommel gathered and regrouped his forces for the (as he so fondly hoped) final thrust to Alexandria, the Baltimores and other light bombers swept into action in their famous "shuttle service." The hearts of the tired ground forces were cheered as they saw the tight, unwavering formations roaring overhead to bomb the German armored formations and transport.

They struck at Rommel's concentrations, dumps and supply bases, and it was these non-stop attacks which helped to save the day at the most critical period of the war in Africa.

Another stern test for the Baltimores came three months later, when General Montgomery was waiting to strike at Rommel in that great offensive which was to take the British armies along their 1,500 mile road to victory. A few days before the offensive opened the Baltimores, with other light bombers, set out to attack enemy landing grounds. It was a time of heavy rains and the enemy airfields were so badly bogged that they were unusable. It was the moment that the Baltimore crews had prayed for.

THEY swept over in perfect formation and rained their bombs down on enemy aircraft on the ground, troops, stores and transport. Sortie after sortie was carried out and once again the shuttle bomber service proved of inestimable value in the campaign.

Not only in daylight but in night too, the Baltimores struck at the enemy. With Britain's Wellington bombers they went out to pound enemy troop concentrations and harbors, inflicting damage which materially weakened Rommel's resources.

It's a great story and the designers and builders of the Glenn Martin "Baltimore" have good reason to be proud of it. Always in the spearhead of the attack—at El Alamein ruthlessly bombing the packed roads as Rommel began his historic retreat, at Agedabia, where he had hoped to give battle, and again at the Mareth Line where he had fashioned the strongest of his defenses—this famous aircraft has played one of the vital air roles in chasing the Germans out of Africa.

That's the verdict of the boys who fight and fly in the "Baltimore."

Soldier's Scribble Good Luck Omen

One day in Tunisia an unidentified private walked up to a Martin B-26 Marauder and scrawled the following on the bomber's nose:

"God bless the crew of this plane. I will say a prayer for their safe return."

His name was undecipherable. The crew would like to know it, for they have been in a dozen engagements since. Although the plane has had some damage the crew came out unscratched.

The name of the Marauder is "The Coughin' Coffin" and it came back battered recently with only one engine running. After ack-ack and shells had hit the Marauder, Capt. Pritchard ordered all hands but the co-pilot, Lt. John Morhead, and himself to bail out.

Over an advanced fighter base they took to their 'chutes, all landing safely. Pritchard brought in the "Coffin" to a perfect three-point landing. Soon it will be ready to go out again to add to its present combat total of twenty combat missions.

★ ★ ★

Marauder Model Can Do 100 mph

Photo On Picture Page

Vernon Mixter, Sheet Metal supervisor in D Building, has been air-conscious ever since he was eight. For then he started building models of planes. He has since compiled an amazing record at various shows around the country.

Some are powered with rubber bands, but the vast majority of his airplane models are powered with one-fifth horsepower gasoline engines. Among his collection he has a B-26 Marauder model, on which he was assisted by William Miller, a Sheet Metal inspector.

This model has two .23 cubic-inch gasoline motors and has been accelerated to a speed of nearly 100 miles per hour. That is about 20 miles an hour faster than any other model extant. Another model is a Curtiss Warhawk fighter, which flies in a circle with a radius of over 100 yards and is attached by wires in flight to Vernon himself.

Other models are flown by free flight movement with no control over the planes by Vernon. The motor is run for fifteen seconds and the ignition timer shuts off the engine, allowing the plane to glide the rest of the way. It has an average run time of three minutes. Vernon has made some flights of as high as 35 minutes.

His models have been entered in approximately 200 contests. He has won first places in 22 events, 24 second places and 30 third positions. These were all free-flight contests along the Eastern Coast.

A "Must" Delivered

Martin engineers pioneered in developing the power-operated turret and were ready with many answers when this type armament was urgently needed.

POWER-OPERATED gun turrets, with which gunners can practically write their names on the flanks of enemy planes, are today standard equipment on many of the nation's foremost combat ships—and The Glenn L. Martin Company is one of the largest manufacturers of this type of armament in the country. The output of the Sinclair Division turret plant is so great, in fact, that when you see pictures of high-speed bombers, chances are nine out of ten that the turrets are of Martin manufacture.

The power-operated turret, one of the deadliest devices of the war, was first used in combat by the British Royal Air Force with devastating effect in the early days of the present conflict in Europe. But back in 1937, long before the war storm broke, Martin engineers had designed and built the first American type for use on the Navy's PBM-1 patrol bomber. Since then, there has been constant refinement and today both types of power-operated turret—electric and hydraulic—are being manufactured by the Martin Company.

Moving assembly lines turn out the turrets with remarkable efficiency. The designs have been so simplified that the number of parts have been reduced and the whole mechanism at the same time greatly improved. Martin turrets are not much larger in their outside dimensions than the gunner himself.

The powered gun turret has made the modern bomber practically a self-supporting unit in combat. Prior to its development, all bombing missions were defended by pursuit escort, since the hand operated guns could not be moved fast enough to fire accurately at speeds of 250 and 300 miles per hour. With power-operated turrets, modern bombers have uniformly defended themselves, with or without pursuit escort, in all theatres of war.

AIMING a power-operated turret requires no more effort than the touch of a finger or turn of a wrist. The slightest touch on the controls causes the guns to move in any direction, thus permitting the gunner to concentrate on accuracy of aim and timing of fire. Moreover, these

(*Continued on Page* 16)

The deadly accurate, hard-hitting twin 50-calibre guns in the power operated turret of a Martin Marauder.

Assembling the intricate mechanism which makes the turret the deadly weapon it is. Women are especially adapted to this work, which is done at the Sinclair Division.

Below the assembly begins with the making ready of the ring by means of which the turret is quickly and accurately turned against an enemy.

Ask The Man Who Flies One

WHEN the war is over and it is possible to compare extensive notes on the performances of various combat planes, the Martin Marauder is going to be right up at the top of the list. No ship of its class is doing a better job of defeating the Axis and few are even approaching it.

Day after day, week after week, the Marauder is doing its chore and doing it superbly, whatever that chore may be—bombing, strafing, torpedoing, reconnaissance or anything else this versatile ship is capable of performing.

One of the highest tributes ever paid to any warplane was given recently to the Marauder by pilots in the Mediterranean area, who thought so well of their ships that Associated Press correspondent Harold V. Boyle sent a lengthy dispatch quoting their opinions. It reads:

IN tryouts back home this short-winged bomber drew some criticism by its reported heavy accident rate, but pilots who have flown it against the Germans say it is a safe and durable ship in trained hands.

"The way it has been bringing us home from missions all beat up by flak really sold us on it," said Lieut. C. S. Church, of San Francisco. "We like it the way it performs now and we don't want them to put any gadgets on it to slow it up."

"We are very well satisfied with it and I wouldn't trade it for any other ship," said Lieut. A. J. McGlannen, of Catonsville, Md. "I don't like to take oxygen."

"They had trouble back home because they checked the B-26's out too fast, before a man really knew how to handle them," said Lieut. Robert P. Own, of Seattle.

"Those engines really have power—best on any bomber," said Lieut. A. J. Riley, of Hammond, Minnesota.

Citing the combat record of the Marauder in this theater, Major William A. Adams, of Natchez, Miss., a ground officer, said: "From the very start, when they came up here as a green outfit, they've done the best job imaginable on targets everywhere from Bizerte and Tunis to Sardinia and Sicily. They are formidably armed with heavy .50-caliber machine guns and have proved time and again they can take care of themselves when attacked by enemy fighters."

One group of B-26's, which since April 23 have flown twenty-three missions and several hundred sorties, also made several trips unescorted into enemy country, defending themselves with bristling guns while unloading their cargoes.

In one call on the east coast of Sardinia they were jumped by dozens of ME-109s. In a 32-minute running battle, during which one ME-109 was shot down and another damaged, the Marauders swept home intact as a result of their superior fire power, which kept other enemy fighters at a respectful distance.

In other encounters B-26's in raids on Decimonannu shot down seven Axis aircraft in one day and on another mission they knocked down ten more. In a bombing attack on forty-five planes caught on the ground they destroyed many and damaged others.

A FOUR-engined bomber can pack its load farther than the burden which the B-26's can tote before turning back home. The Marauders work at around 12,000 feet and have to brave all sorts of light and heavy flak, while the cloud-spurning bigger bombers have only to worry about heavy flak.

"Our B-26's are faster and more maneuverable, however, so they are better able to carry out evasive tactics," said Adams. "In one trip over Cap Bon a Marauder formation of thirty-four planes flew one hundred miles through the worst flak we have ever seen. Only two ships were unmarked. Three were shot down, but only one crew was lost.

"The rest came back with an average of 80 holes in each ship and some had as many as 115 or 120. I think that proves that they can take it. One plane, with one of its two engines out of commission and with its ailerons shot up, passed an ammunition ship and blew it up on the way home.

"Our flyers are thoroughly trained and they respect and have full confidence in their B-26's. We feel that the results from the raids prove they can bomb with accuracy from medium altitude even in the face of the heaviest flak and fighter opposition."

IN other war theatres, Marauder pilots have likewise been unstinting in their praise of the Marauder.

"We think the Marauder is the finest combat airplane in the world," Capt. Franklin S. Allen, Jr., of Los Angeles, who has flown her 370 combat zone hours in the Southwest Pacific, said. "It takes a helluva beating. Our planes have come back on one engine several times. They have been peppered by ack-ack but they still came back. The Marauder has never let us down. Its strong construction has saved many lives."

Capt. Allen's 600 hours of flying Marauders during his four-year span in the Air Forces makes him one of the real Marauder veterans. Few, if any, have flown her that much.

(*Continued on Page* 17)

BOX KITES TO BOMBERS

Chapter XVII

THE national ear was glued to radio speakers during that first trip of the China Clipper. Newspapers screamed her progress in headlines, and when she landed safely at Manila, a roar of acclaim went up. It reverberated through the world, until lowly peasants in distant and picturesque lands knew of the great silver birds which carried people and mail and goods across the vast Pacific.

Then began the long grind that was to last for many years, as the Martin China, Philippine and Hawaiian Clippers shuttled between San Francisco and the Orient. The Hawaiian was lost in an unexplained accident, but the other two kept on, and the regularity of their travel made it quite commonplace for people to step aboard them for Hong Kong.

The name of Martin stood forth. People who had sniffed a bit at the "crackpot" prophesies of the pioneer who had dared, years before, to say that "eventually airplanes will carry passengers, mail and express across the oceans" now hailed his genius.

Thus there journeyed to Middle River a group of Russian civilians. They represented, they said, the Amtorg Trading Corporation, a purchasing agency for the Soviet Government. Out of the closed-door conferences there came engineers and executives to hurry back to desks and drafting tables, and ere many months had passed, there began to take shape in the Martin plant (now A Building) a leviathan of even more heroic proportions than the Pan American Clippers.

Soon the cat was out of the bag. Martin was building a 63,000-pound flying boat (11,000 pounds heavier than the China Clipper) to be known as the Soviet Clipper. It was to be the first commercial aircraft capable of a non-stop transatlantic hop with a useful load. When the great ship was moved outside the plant for final assembly, private planes from fields far and near swarmed above the Martin ramp as pilots and passengers gazed down in awe.

THE Soviet Clipper had many of the same lines of the Pan American Martins. She had the sea-wings which the company had pioneered to take the place of wing-tip floats (these sponsons are not practical, however, for military patrol boats, since bombs are dropped from engine nacelles), but she had a double-rudder tail, where her predecessors had a single-rudder tail. Her interior appointments—lounges, sleeping compartments, etc., were beautiful.

It was on November 24, 1937, that the leviathan followed the trail of the China down the concrete ramp to Middle River. It was the same old crew that went aboard, headed by Ken Ebel. There were no qualms this time, and the cries that went up when she flew were only of admiration, not astonishment.

It was in the dead of winter (January 20, 1938), less than three months after its first flight, that the Soviet picked up a passenger list of forty-five dignitaries of Baltimore and Russia at the Municipal Airport and churned into the wind. Ebel opened the four throttles and the mighty ship soared into the air after only a 35-second run. The Russians aboard felt perfectly at home as they gazed at the white and icy prospect below as the ship circled Manhattan and settled down in Jamaica Bay. Here she was partially disassembled and placed on the deck of a huge surface freighter for her journey to Russia. With her went manufacturing rights, which the Soviet Government had purchased. After her went the equivalent, in parts, of two other ships which the Russians were to assemble.

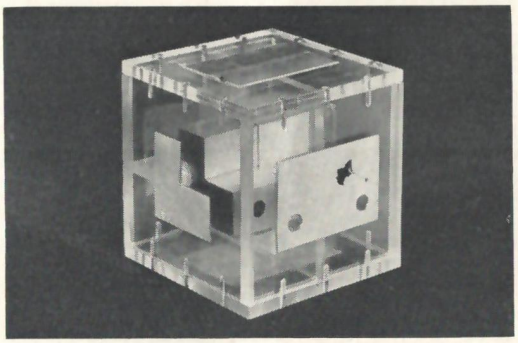
But this airplane was only part of the Glenn L. Martin Company's interest at the time. The factory floor was crowded with fuselages and wings of Martin 139's (evolution of the famed B-10's). The Dutch East Indies, China, Siam, the Argentine Army and Navy and Turkey had taxed Martin's facilities heavily with demands for the famous "Flying Whale."

(*Continued on Page* 18)

First class in Inspection Training School listen to a blackboard lecture by R. L. Lipps.

Director of Inspection School, Ralph Lipps, points out advantage of teaching from orthographic projector to his two assistants, Richard Schmidt and L. F. Chard.

Norman Guttman and Thelma Goss watch as Director Ralph Lipps, in center, explains the workings of the orthographic projector.



The orthographic projector, or lucite cube, used in simplifying the drawing of blueprints.

Inspection School Under Way

An important addition to the Educational Department's program has recently been started in the form of an Inspection School. The purpose of the teaching is to give selected personnel a general foundation in inspection work. Those selected for this training must first have a general knowledge of their job and secondly, the ability to fit into inspection work.

All departments are checked to find the right type of individuals for training in this school. Mr. R. F. Lipps is acting as Director of the Inspection School, with Mr. Chard and Mr. Schmidt as his assistants. They conduct the classes over a three-week period, eight hours each day. As the classes proceed, those participating must pass the various tests and assignments in order to stay in school.

Courses in the use of precision instruments include: Mechanical Drawing, Nomenclature, Standards, Usage Lectures on Forms, Blueprint Reading, Electrical and Hydraulic Inspection Lectures, and Detail Inspection.

A similar school has been operating at the Martin plant at Baltimore for many years; however, this is the first school of its type at the Nebraska plant. Experienced instructors are an important part of the program. They must be trained through practical experience in order to answer all of the questions asked by the students and to pass along the technical information that will assist the embryonic inspectors at a future date.

Besides the standard lecture courses, a new form of teaching is used. This is a Lucite Cube that shows the six sides of an object to be drawn. Called an orthographic projection, it clearly shows the inside and outside angles that formerly could only be visualized, not actually seen. Each of the six sides is shown in a flat position and at the same time in a relative position to the other six sides. In this way, the student can readily see what angles are necessary to be drawn or measured, and just how they appear on the blueprints.

When the students first come to the class, they are not too familiar with inspection procedure. As the various lectures and courses unfold, they begin to develop the personality that a good inspector must have. Plain common-sense, mixed with the training they receive, make it possible for them to help in maintaining production, and at the same time making sure that all parts are right.

Probably the most valuable teaching they receive is that in Blueprint Reading. This enables them to read drawings and prints, and express themselves in angles or terms, instead of words. It is a basic knowledge required of all inspectors.

The use of precision instruments is usually a new experience for all of the students. They learn the use of micrometers, vernier-height gauges, and go-and-no-go gauges, dial indicators, and other instruments. They use these instruments on actual plane parts, thereby simulating actual operations they will later do as inspectors.

The other courses follow rapidly, and within the short space of three weeks the students are ready to start in at the bottom of the inspection ladder. Individual abilities are appraised in the classroom, by the instructors, and departmental assignments are made accordingly.

As the classes continue, they will develop a necessary supply of inspector material that will be trained and ready to step into different types of operations, and handle the inspection procedure.

Form Separate C. A. P. Squadron

A separate squadron composed mostly of Modification personnel has been formed in the Omaha chapter of the Civil Air Patrol. They will be known as the Martin-Nebraska Bomber Squadron. At present they have 125 members, with 25 of the group being women. They can expand to full squadron size of 200.

The study involved in the Civil Air Patrol is not over-burdening, but it is intensive and complete. Such subjects as Navigation, Airplane Engines, Meteorology, and Structure and Maintenance, are included as part of the ground-school course.

★ ★ ★

Cecropia Moth In Modification

The B-26 Marauders are not the only "winged" objects to enter the Modification Center, these days. A variety of gorgeously-colored, large moths have been seen throughout the plant by night workers. Last week (they say), a Cecropia Moth was half-way down the Final Assembly line before the third shift workers were sure it was not a B-26!

Marie Wagner, of third shift, Production, made the diagnosis of the type of moth and since her past experience includes zoology, the armament crew had to strip the guns off of the Cecropia, and let it glide silently away into the night.

Orange Blossom Department

★ Helen Wright (Tool Design, Modification) to Corporal Technician Robert Seibert, on May 22, 1943. ★ Helynne L. Oldfield to Ralph E. Dean (Plant and Equipment), on May 23, 1943. ★ Nora G. Whittington, (Final Assembly), to Charles Daniels, on May 20, 1943. ★ Bette D. Gross (Cafeteria) to Max E. Bolz (Assembly), on June 25, 1943. ★ Stacia Lucina to Joseph L. Becvar (Assembly), on May 22, 1943. ★ Mary Catherine Sweeney (Production) to Howard E. Dorsey (Assembly), on May 13, 1943. ★ Regina McDermott (Welding) to Dale Wilsoncroft (Sheet Metal, Modification), on May 14, 1943. ★ Betty Bryan (Purchasing, Modification) to James Obereuter, on May 16, 1943. ★ Eva White (Sheet Metal Inspection) to Kenneth Wheller, of the Marine Corps, on June 20, 1943.

STORK DEPARTMENT

★ To Mr. and Mrs. C. C. Tucker (Assistant General Manager, Legal), a daughter, Sarah Hester, June 3, 1943. ★ To Mr. and Mrs. George DeVisser (Chief Industrial Engineer), a daughter, May 9, 1943. ★ To Mr. and Mrs. Ray MisKimon (General Foreman, Plant and Equipment), a daughter, May 27, 1943. ★ To Mr. and Mrs. Alan Ball (Ground Test Inspection), a son, May 15, 1943. ★ To Mr. and Mrs. James Finn (Timekeeping), a son, May 14, 1943. ★ To Mr. and Mrs. Lyle Birkey (Metal Bench and Welding), a son, May 22, 1943. ★ To Mr. and Mrs. George Simmons (Metal Bench and Welding), a daughter, May 28, 1943. ★ To Mr. and Mrs. I. L. Hutchinson (Assembly, Inspection), a daughter, May 17, 1943. ★ To Mr. and Mrs. Patrick McCabe (Metal Bench and Welding), a daughter, May 26, 1943. ★ To Mr. and Mrs. William Mahlock (Metal Bench and Welding), a son, May 25, 1943. ★ To Mr. and Mrs. Sam Griffey (Assembly), a daughter, March 30, 1943.

Summer Sports Now Available

With the coming of hot weather, Martineers are swinging into one or another of the many Recreational activities made available through the Martin-Nebraska Recreation Department. Having completed a very successful winter bowling-season, employees have readily accepted the many sports made available to them. One of the most complete programs of its kind, there is included some form of sporting activity that nearly everyone can enter.

Bad weather during the spring held practice sessions for the various teams to a minimum. However, most of the teams have now reached their mid-season form. Hard-ball and soft-ball teams entered in the city leagues have more than upheld the Martin-Nebraska banner. In most instances, they are in the top bracket of the league standings.

The Golf Program has filled a very definite need in the outside recreations of employees. The first-shift team competition is held at the Happy Hollow Country Club, on Sunday morning; while the second and third shifts play their matches at Dodge Park in Council Bluffs. Some of the par and near-par scores turned in indicate that some of this region's top-notch golfers are participating in the program.

In comparison with many other plants throughout the country, the recreational activities at the Martin-Nebraska plant are far superior. The amount of work involved in organizing and maintaining the various sporting activities is greater than the average person would realize. Clearance must be obtained for the use of playing fields, equipment must be on hand, umpires selected and team standings kept up to date. Cooperation on the part of Martineers participating in various sports will prove very helpful.

Tom Pierce, Personnel-Contact Man, presents the certificates for $2,500.00 in War Bonds to Eugene P. Rayford, Machinist. Rayford converted his savings into bonds and in addition is buying a $25.00 War Bond every pay day.

"For This We Fight"

By Jean Drew

ONE morning, on the way to work, we heard a program on which Charles Laughton was a guest speaker. It is common knowledge that Mr. Laughton is a fine actor. He knows just when to drop his voice, when to plead, and when to jest—nevertheless, when he had finished, there was a most uncomfortable lump immediately behind the American Adam's apple, and we all knew (if we would admit it) that he was not kidding, that his words were dripping with bitter reality.

So far, our hardships in this war have been minute. Smith complains because he is unable to get a tender steak for dinner—and a Greek is eating the bark off trees; Jones was furious because his coal was delivered late—and a Pole is huddled in a shell hole around a dead bonfire. "But, they can't do that to us—Laughton's just acting again," we all thought, and then looked cautiously around to see if the man on our right and the glamour gal on the left were listening as seriously as we were.

We have always done what we pleased with what we earned, spent it, or saved it—as we chose. But, that was before the event of the Nazi-Jap Black Plague. At a time like this, our American independence can almost be called a fault. Now we must discount ourselves—now that Johnny Doughboy is somewhere afar, we have to see that he is well fed, and that he has a good gun and plenty of ammunition. It is difficult for some of us to believe that a country as large as ours, as magnificent, with as many resources, as wealthy, would need each and every individual contribution.

THERE is not one of us who has not thought at one time or another, "Let Mr. Bigwig give more. They'll never miss MY dollar." Each boy that puts on a uniform, gives all that he has—himself. He knows the risks he is taking, but the honor bestowed on him when he wears that uniform, that impregnable spirit that he will come back all right, carries him right to the battle front. And it is a good thing that it does, because we sorely need his vigor, his recklessness—himself.

We grumble about going without meat once a week, but we really don't mind it—we know that it is necessary in order to feed Johnny "over there"; we'll make our shoes do a little longer so that we'll know that Johnny is not in some shell-hole with bare feet. We'll buy another bond, so that Johnny will have a good gun, and not have his innerds spilled on the ground by some maniac better equipped than himself.

Mr. Laughton's gruesome word-picture of our lads swimming in the ocean covered with two inches of oil, swallowing oil, going down because their life belts became oil soaked, and they were too sick to care; . . . then some of them kissing the good American earth when they came home—bystanders laughing at them—was vivid. Americans are individualistic to say the least—not one onlooker would have hesitated a moment to take one of the lads home to dinner, yet the sight of him kissing the earth was funny. Americans can see humor where there is hardly any, even when their hearts bleed, and that is why we love life the way we do, our ability to laugh, our freedom of speech, our job, and our independence.

WE Americans have never failed in anything we have started to do; but sometimes, it takes an actor to make us stop and think once in awhile. We Americans love life, and what is life but acting?

Let's not only do our best—let's do more than that! The War Bond Drive at the Martin-Nebraska Company is one way Martineers can prove to the boys in the fox-holes, on the high seas, while flying B-26's and other ships in the air, that they are behind them 100 per cent!

If you're already giving ten per cent, check your budget again and see if you can't make it twenty per cent. If you're not giving ten per cent, get together with the person handling the bonds in your department and tell him you want to increase it. If you're not giving anything, get together with your conscience. After all, you do have to live with yourself as well as with other Americans.

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Ferry Pilot Is Taken For Ride

One of the best anecdotes to come out of the business of flying and ferrying Marauders took place in the operations office at the Hotel DeGink.

A ferry pilot, who had been accustomed to flying transports and airliners, had taken off in a Marauder to fly it to it's scheduled destination. He had been gone perhaps a half-hour when he returned to the field, and complained that the performance of the ship was sluggish, that his instruments didn't record the necessary pressure in normal flight, and he was reluctant to accept the ship for delivery.

He was asked if he would accept the ship, if one of the army flight officers would okay it. He answered, "Yes," knowing that the army acceptance was final and would leave him with no alternative. A certain Lieutenant was assigned to make the flight and went up with the ferry pilot for the test.

It so happened that this Lieutenant had made the army acceptance flight on this particular ship and was a little perturbed that the ferry pilot had brought it back The result was that he really put the ship through it's paces. When they landed, the Lieutenant came back like he had merely been out for a morning stroll. The ferry pilot was perspiring freely and had an odd green color on his face.

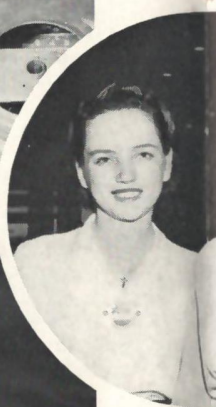
Armament ground-crew cleaning guns preparatory to installation in ships.

Fifty-caliber rounds of ammunition being fed into ship.

Mrs. Flo Thompson, wife of Jack Thompson of Modification's Plant and Equipment, entertains Martineers with a hula dance at a recent "Welcome Party" for Fred Wilcox, the new Modification Plant Engineer.

Dorothy Loomis, second shift, Production, Main Plant.

Claire Tylkowski, second shift, Surfaces, Main Plant.



(Left to Ri
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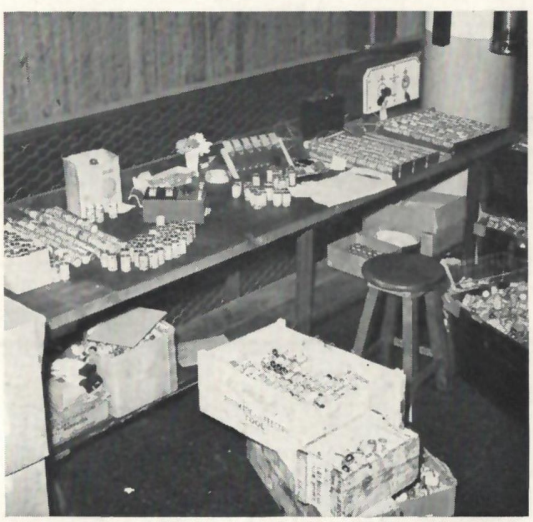
Mary Lou
first shift,
Modificatio

Darlene Jacobs, third shift, Inspection, Modification Center.

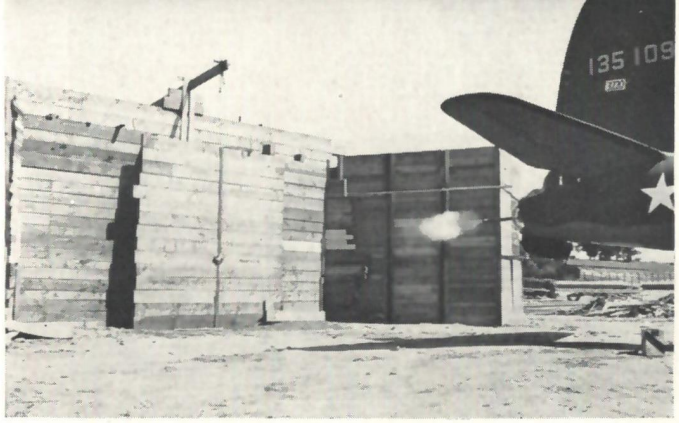
La Vern Watson, second shift, Assembly, Main Plant.

Material conservation container speaks its own story.



Thousands of flashlight batteries waiting for recharging.

Rivet sorter being operated by Jane



Tail-turret gun being tested at machine-gun pit.

Oswald Nora firing nose-gun at target in pit.

Helen Watson, second shift, Machine Shop, Main Plant.

Leora Jansen, third shift, Assembly, Modification Center.

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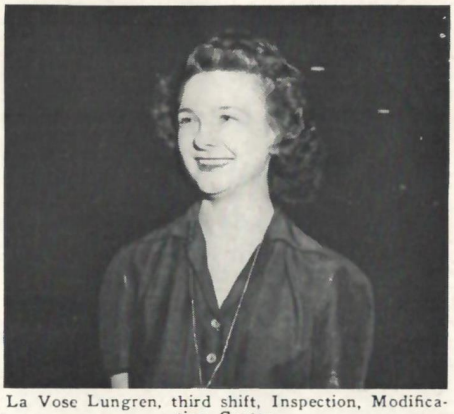
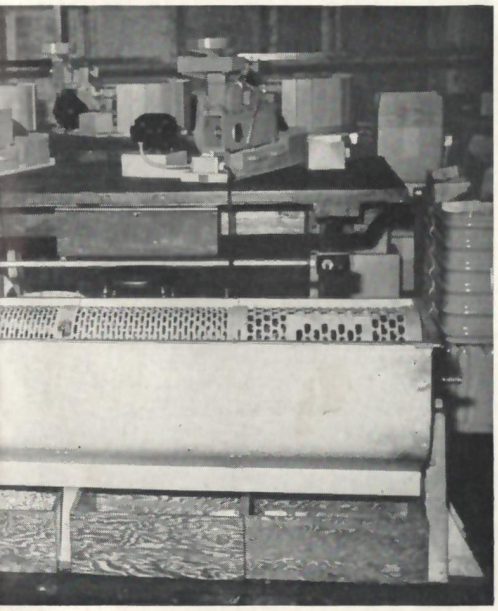
The "honor table" at the congratulatory party for Gregory, Miller and Longley, noting their recent promotions.

Rosalie Pelan, Cafeteria, third shift, Main Plant.



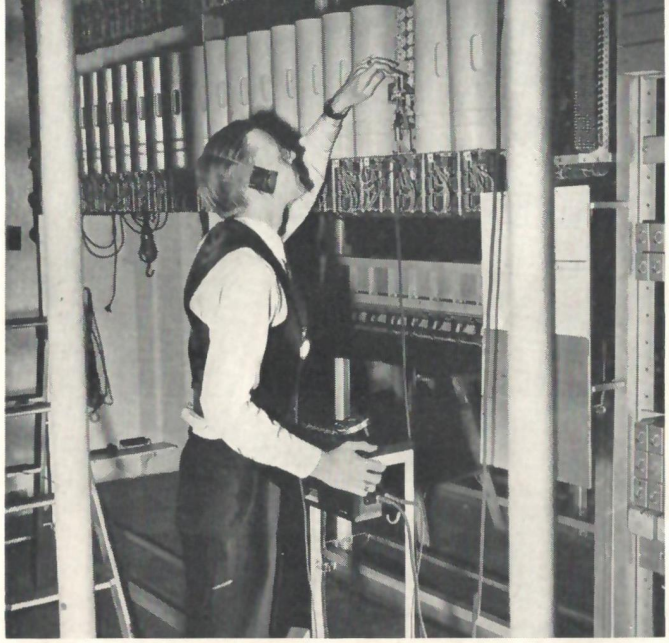
La Vose Lungren, third shift, Inspection, Modification Center.



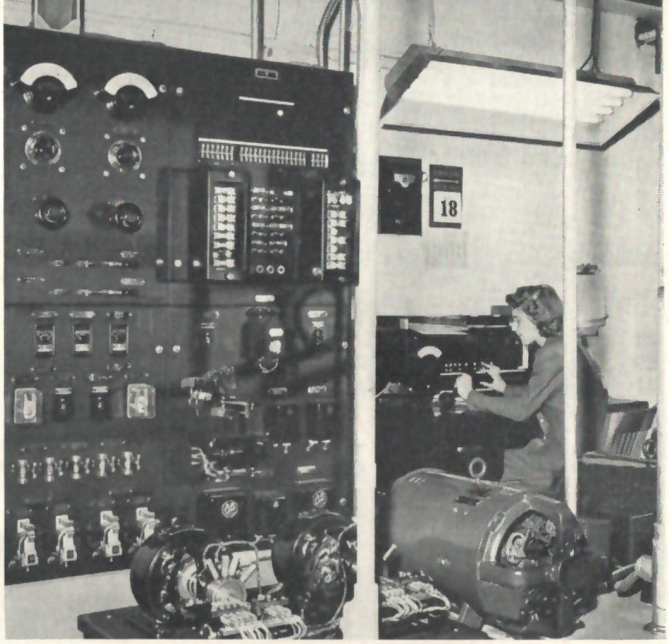
Wiles for retrieving of used rivets.

Celia Gray testing dry-cell batteries after charging.

A second type of material conservation container in use on final assembly floor.



Ray Smith routining individual switches to insure proper operation. This is a daily procedure.



Lucy Ferguson running a series of tests on individual phone lines.

Telephone System At Martin-Nebraska Functions Smoothly

UNDER the capable direction of Bob Irish, Telephone Supervisor, the telephone equipment at the Martin-Nebraska plant operates with a smoothness and dispatch that is most satisfactory. Since every telephone in the plant is a business telephone, an ordinary eight-hour period finds more calls going through the board than a small city the size of Fremont, or Grand Island would in a twenty-four hour period.

Both the modification center and main plant are under Bob's direction, although the equipment is entirely separate. The smallness of the operating force would lead one to believe that there isn't a great deal of trouble encountered. This is not the case. Actually, it is the wide knowledge of what to do and where to look when something goes wrong that makes it possible for the Telephone Department to keep the proper numbers coming through.

In the main plant, a call coming in from a dial telephone is routed through a "finder" on which are some 200 numbers. There are a total of 30 of these "finders," each operating from the impulse transmitted when the dial is operated.

The number, after being received on the "finder," is transferred to the "connector" board, of which there are twenty. These are similar in appearance to the "finder," but serve the purpose of completing the connection.

In addition, there are 17 manual operating cord-circuits from the central switchboards, that operate on two positions allowing 34 additionl connections.

This means that it would be possible to synchronize some 80 calls connecting 160 different people during a given one second interval. This would be a most unusual situation but it does give an insight into how complete the connecting system is. The boards at the modification center are comparable, but not as large.

An estimate of how many calls are handled during a 24-hour period emphasizes the necessity for having a large system and one that works easily, and automatically. There are some 15,000 calls coming through every 24 hours, or an average of 625 every hour.

In order to keep this equipment in first-class condition, Bob Irish and his department have a checking system in operation that makes it possible to test every switch daily. In addition, there are other routine checks made during a 30-day period that give a complete test to the entire system. And since both systems, modification and main plant, are handled by the one department it is necessary that this routine be followed like a time-table.

The source of power is from the outside feeding into duplicate generators that build up the necessary current to operate the system. In addition, there are twenty-six wet-cell batteries, through which the current flows, and which are available as stand-by current in event of power failure. An example of the completeness of this system is illustrated by the fact that the ordinary noise of generators in action is usually quite deafening. By running the power through the wet-cell batteries, the noise is deadened until it is hardly noticeable. An effect of sound-proofing is achieved.

There are times when the six-man department is forced to accomplish the impossible in keeping the many circuits operating at top efficiency. When trouble does occur, the circuit is followed from its point of origin to final conclusion until the cause of the trouble is determined. Incidents of this nature do not happen often, but when they do, it is amazing to realize that any one man can find his way through the jungle of wires that make up the system.

Bob Irish receives report of phone conditions.

Bob Irish is happy with his job, but there are some things that cause the walls to bulge if he happens to see them. Among these are the people who slam the receiver into the cradle. This is a particularly sore point with him today with equipment impossible to replace. Other suggestions from the telephone supervisor that will help to keep your telephone operating efficiently include the operation of the dial. Do not force the dial back to its starting position. The dial is set to operate on a ten-impulse per second ratio, and forcing the dial will injure the mechanism. Occasional straightening of the telephone cord will make the telephone easier to handle and give longer life to the cord. Do not attempt to take the telephone apart; if it is not operating properly, report it, and Bob, or one of his department men, will make any necessary repairs. Telephones and telephone equipment are difficult to obtain. A little thoughtfulness and cooperation will help to keep the equipment we have in good condition.

Calls Marauder Safer Than Jeep

CAPT. John C. O'Donnell, youngest pilot of the original and now famous bombardment group of B-26 Marauders to go out to the Southwest Pacific, recently returned to his native Maryland firmly believing that a Marauder is safer than an Army Jeep.

This 23-year-old hero, who has the Distinguished Flying Cross, visited The Glenn L. Martin Company on May 25 while enjoying a two weeks' leave, so richly earned after 17 months of combat duty with the group that stood off the Japanese and prevented their invasion of Australia.

It was June 5, 1942, when this youthful veteran of 1,200 flying hours was on a bombardment mission in a flight of six Marauders over Lae. Their mission accomplished, and the Jap Zeroes warded off, Captain O'Donnell was set to head for home.

One engine was dead. A Zero had made a lucky hit. Flying on one engine, Captain O'Donnell encountered another flight of Japs. In the ensuing melee, four of the Nips were shot down.

The tail gunner, Corp. Ivan Henderson of the State of Washington, accounted for three and the turret gunner, Staff Sgt. Harry Berg, of Delaware, cut down the other.

Captain O'Donnell continued on for four hours and five minutes, flying around the Owen Stanley Mountains and the southern tip of New Guinea on one engine, to return safely to the Port Moresby base.

He then hopped into a jeep with a group of friends and drove off to town. En route, the military vehicle skidded off a curve and over a 60-foot cliff. Captain O'Donnell suffered a fractured right collarbone and broke his left arm. With a grin he says:

"That proves a Marauder is safer than a jeep."

ALTHOUGH he was hospitalized for two and a half months, he was rewarded for his excellent feat with a D. F. C. He is somewhat experienced at that sort of flying, because on another occasion he was forced to fly up the Australian coast on one engine.

On another raid at Rabaul, Captain O'Donnell and a flight of five other B-26 Marauders caught the Japs napping. They were out on a landing field, servicing and preparing for flight twenty Mitsubishi bombers. The Marauders came up and "blasted hell out of 'em," as O'Donnell put it, destroying every Jap plane.

On a third occasion, this veteran of over 20 combat missions witnessed some good Navy work. A flight of Jap torpedo bombers were attempting to attack the Asiatic Fleet in the Coral Sea. The B-26 Marauders circled above in case of need, but they weren't needed. For the surface vessels and Navy gunners were in fine form and brought down all the Japs. None of the Navy vessels was damaged.

"I saw three Jap planes explode in midair," O'Donnell commented.

"It sure is one grand plane. Even if I couldn't get a new one, I would prefer to fly one of the old ones than any other type," Captain O'Donnell said. He will go to Florida for duty when his leave ends.

With him was Lt. Robert B. Linsley, Captain Gammon's navigator, from Portland, Maine. Lieutenant Linsley is a veteran of 20 combat missions in the group from the Southwest Pacific. A graduate of the University of Vermont and the University of Michigan, he attended the Pan American School of Navigation at Coral Gables, Fla.

In one running combat near Lae on New Guinea, Lieutenant Linsley's tail gunner, Sgt. Murphy Smiraldo, shot down a Zero. It was during a 30-minute battle with four Marauders opposing sixteen Zeroes.

On another occasion, his plane crash landed, after running out of fuel, in a little clearing just off the landing field at Port Moresby. No one was hurt, but the plane was "smashed up considerably," Lieutenant Linsley said.

Teletype System Speeds Replenishment of Stock

Fifteen hundred messages are sent each day over the inter-plant teletype system. Chief teletype operator Elsie Rogers can shoot out one of these brief, pointed messages in a half-minute on the average.

It's the Martin way of keeping close tabs on stock replenishments and checks on physical inventories.

Before last October, Raw Stores had to resort to the slower, less accurate methods of telephone and telegraph. Messages carried in trucks were sometimes lost, hampering production.

In the short span of seven months, since Miss Rogers' arrival, the Company has acquired eight sending and receiving teletypes, which resemble a three-row typewriter, and one receiving machine; and has plans for three more. There are fifteen operators and ten file clerks, under Subforeman Chester Taft.

Three machines are located at the message control center at Raw Stores, A Building, where there is such a traffic volume that an hourly filing system is required. Others are in C and D Buildings, the Army Division, Canton and Eastern avenue warehouse. A receiving machine is in Transportation. Eventual plans call for machines in every warehouse.

Every morning stock replenishments pour into the control center in groups of ten. Thus stock room requirements are quickly filled and with a minimum of error. Sometimes the machines get out of order. Miss Rogers forgets her makeup and digs in, ferreting out the offending part and making the proper mechanical adjustments until permanent repairs can be effected.

Other teletypes in the Accounting Department connect the Martin plant with the outside world by direct wire to the telegraph companies.

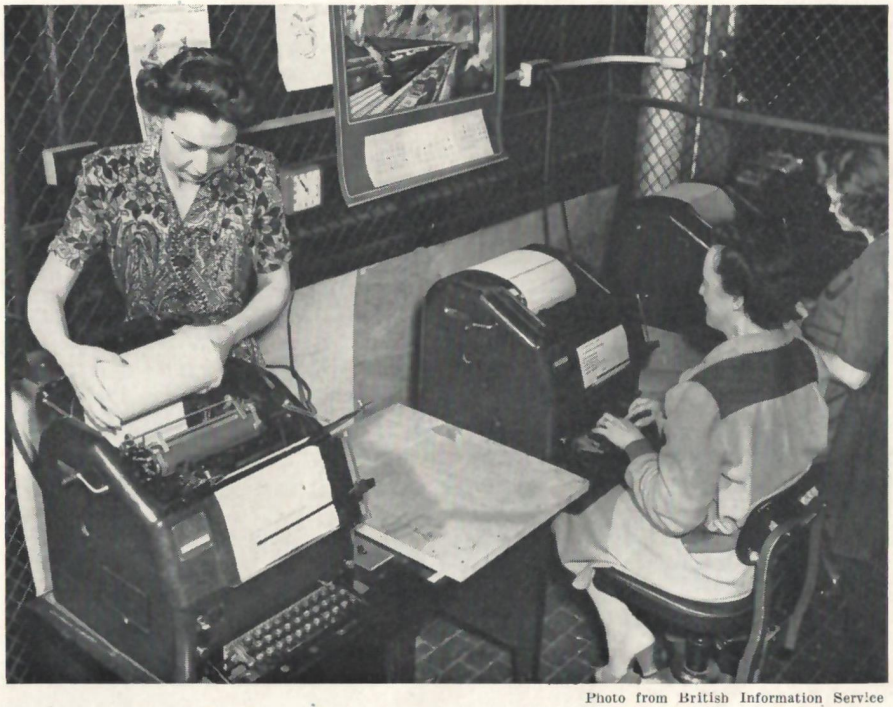


Photo from British Information Service

NERVE CENTER. *Elsie Rogers (left), Mrs. Bessie M. Troup and Annabelle Gotzen in the control room of the Martin teletype system.*

WOMEN at war

The Lunch Box

WANT your Joe or Jack to be head man on the production line? Want to be in there pitchin' yourself? Then use your imagination to provide tasty and vitamin-filled meals not only at home but for the lunch boxes.

Sandwiches, the same as salads, usually depend on what is in the house, the tastes of the person to eat them, and *always* the ingenuity of the sandwich maker. A good beginning for everyone, however, is to use thin slices of bread with moist, generous fillings.

As for bread—branch out and put some variety into the lunch box. Why not try cracked wheat, whole wheat, date-nut, raisin, rye, or pumpernickle? When you use whole grain bread or rye bread, it isn't necessary to trim the crust—a practice which many people with robust appetites have long ago abandoned anyway. Long rolls or large, flat round ones offer a change from sliced bread and speed the making of lunches.

Crackers are good for a change. Graham crackers spread with cream cheese or peanut butter; soda crackers or saltines with a chunk of cheese—all are appetizing and easy to prepare.

If your Joe is one of those people who wouldn't look a carrot in the face, you'll have to resort to more subtle tactics in the matter of vitamins and vegetables. For example, chop a handful of parsley, a small green onion, and some herbs from the Victory garden and mix with a tablespoonful of natural wheat germ and a dash of mayonnaise. Add a little crumbled crisp bacon, ground meat or grated cheese and your man will consume it eagerly—vitamins and all.

Crisp celery or sharp radishes give zest to a menu of sandwiches. Spring onions, a raw carrot, or a cucumber serve the same purpose. Be sure to include a small packet of salt.

To mention a few sandwich ideas you may have been overlooking: peanut butter and shredded raw carrot; cottage cheese and shredded pineapple; cottage cheese and grated raw carrot; cottage cheese, grated raw carrot and raisins; and prunes or apricots, salad dressing, and chopped peanuts.

If there's someone at home to make them—or if you can squeeze in the time yourself—why not try some nourishing, tasty peanut butter cookies as a special treat? Peanut butter alone, you know, ranks high on the list of vitamin-filled foods. Here's a recipe concocted especially for the defense worker's lunch box.

½ cup shortening
½ cup peanut butter
⅓ cup brown sugar
¾ cup dark corn syrup
1 egg
2 cups sifted flour
¾ teaspoon soda
½ teaspoon baking powder
¼ teaspoon salt

Cream shortening and peanut butter together. Add brown sugar gradually, creaming thoroughly. Add corn syrup gradually. Beat well. Add well-beaten egg. Sift flour, soda, baking powder, and salt together and stir into creamed mixture. Blend thoroughly. Chill. Form into balls the size of a walnut. Place on lightly greased heavy baking sheet. Flatten with a fork dipped into flour to make a criss-cross pattern. Bake at 375 degrees for about 10 minutes. Makes about 4 dozen cookies.

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ELECTRIC CORDS. They contain copper and rubber—two of the materials needed to win the war. By care and repair of your electric cords you are saving the "life line" of your electrical equipment. Every saving contributes to the all-out Victory.

Don't hit plugs against hard objects . . . don't yank the cord, kick it, twist it sharply, or knot it . . . don't let the cord touch hot surfaces . . . don't let it get wet . . . don't handle a wet cord except with a thick pad of dry cloth.

Don't try to conceal cords in places they will be stepped on or pushed against . . . hang the cord so the same spot doesn't always get the rub or bend . . . don't do anything that will expose the wires or that will let the two wire bundles touch . . . don't staple or nail cords to the wall or baseboard.

Never handle any cord with wet hands! Many fatal accidents happen that way.

Fight Those Moths!

IF you have not fortified your precious woolens and other winter things against the onslaught of moths, don't delay any longer! Or if you have packed them away with only a few casually scattered moth balls, perhaps a more thorough job needs to be done. Moths breed all year round at temperatures from 50-100 degrees.

First step is always seeing that fabrics are scrupulously clean. For the fullest protection they should be stored in air-tight containers. These can be closets, chests, bags, or any place that can be made air tight. In the case of a clothes closet, it is better to select one that can be kept closed all summer, if possible taping up the door or wedging soft cloths between the cracks to make it air tight. The bags, which have a rubberized appearance, can be purchased in department stores and should be a good investment in conservation of clothes. They hold eight or more garments on hangers, and have an airtight closing. They can be used all year round as dust proof bags.

It is not the strong odor of moth balls and crystals that repels moths, but the gases given off by the slow evaporation of the crystals in confined areas. For storing clothes, blankets, and woolens, use crystals generously; they get into smaller crevices than the balls. When using garment bags, spray them with a moth killer; hang anti-moth preparations in the top of your closet. Use the mothproofing unit of your vacuum in the closet occasionally.

Don't forget upholstery, rugs, and other unconfined areas which may be attacked by the little flying enemies. Spray lightly but thoroughly over the entire article, paying special attention to baseboards and to areas under low furniture not often moved. If you find the moths have already gone to work on your upholstery, inject a mothkilling compound with a needle spray every two inches.

A MAN SIZED LUNCH FOR A MAN SIZED JOB. *Anne Mae Knapp, third shift employee in Surface and Floats, Army Division, realizes the importance of a generous, well-balanced lunch. Thus fortified, she doesn't know the meaning of "morning slump," but goes sailing through the wee hours with energy and endurance to spare.*

VERA DEVINE, *former Powers model, is another of the many young women who have forsaken other professions for war work. She is in Raw Stores, Plant 1.*

Her Business Too

The *New York Times* recently reported the following incident of a mother and her concern over her son's plane:

A gray-haired woman with a worried expression stood silently studying the nose of the giant B-26 Martin Marauder bomber on display in the Ordinance Department War Exhibit in the Chrysler Building. She bit her lip and clenched her fists tensely. Then she approached one of the enlisted men sent from the Aberdeen Proving Ground in Maryland to explain the technical aspects of mechanized warfare equipment. "Is that where the bombardier sits?" she asked. "It looks dangerous, behind all that glass. Isn't it the most vulnerable place in the plane?" When told the "glass" was really shatterproof plastic and that the bombardier's post was considered one of the safest in the plane, her expression changed. "I'm so relieved," she murmured. "My son's a bombardier overseas and I came here to see for myself what his plane looks like."

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To hold the sweet in corn, peas, and lima beans and to keep snap beans fresh, keep them cold. Let them stay in the pod or husk unless you can store them tightly covered in refrigerator.

BEACH SCENE. *With the advent of hot weather, Stansbury Beach, a pretty bathing spot in the Stansbury Estates community, seems to be pretty well taken over by the younger generation. The beach is available for residents of Stansbury Estates, Stansbury Manor, and Aero Acres.*

Wartime Hints

SAFETY FIRST. Pull in those wisps of hair and watch where you're going. What if those curls do look cute peeping out from under your hair net in front. That's no reason for being a home front casualty.

KNOW YOUR GASES. Ever staged a smelling bee? It's the newest wrinkle in civilian training for gas warfare. Air raid wardens, attention!

In your training course you heard the various gases described as to appearance and odor. But are you sure you could recognize them were we to really have a gas attack? Precautions against and treatment for each is different, hence the importance of civilians being able to recognize the most common kinds.

For this you need one of the approved sniff kits with bottles containing harmless gases that smell exactly like the real thing—mustard gas, phosgene, lewisite, etc. Get your audience to "memorize" each of the odors by passing the bottles around to be sniffed. Then have everyone sniff again to see who can spot all five bottles correctly. Sounds easy, but just try it!

Next step is to learn the proper precautions and treatment, all of which are listed in the pamphlet which comes with the kit. You may choose your kit from several types, one of which is approved by both the O.C.D. and the Army's Chemical Warfare Service.

SUMMER TONIC. Slip a fresh flower into your lapel or tuck several of them into your hair. They all look fresh and pretty and some rival your most expensive perfume for fragrance.

COFFEE. Best solution found for coffee lovers who subscribe to the theory that an excellent brew can't be made from skimpy beginnings: let the water bubble longer in the percolator but avoid fast boiling; for drip coffee, pour the water through twice. To keep coffee fresh, transfer it from paper bags to tightly covered glass jars. To keep the oils in it from becoming stale and giving the beverage a musty taste, store in the refrigerator or other cool place. To make use of left over coffee, pour it from the coffee maker into a glass or other container and store in refrigerator until time to re-warm.

POINTS. In spite of the few ration points allowed, some busy housewives, especially those who also work in war industries, have to be very careful not to let coupons expire before getting to the store with them. One very busy Martin woman solves the problem by writing the expiration dates on her large kitchen calendar *in advance.*

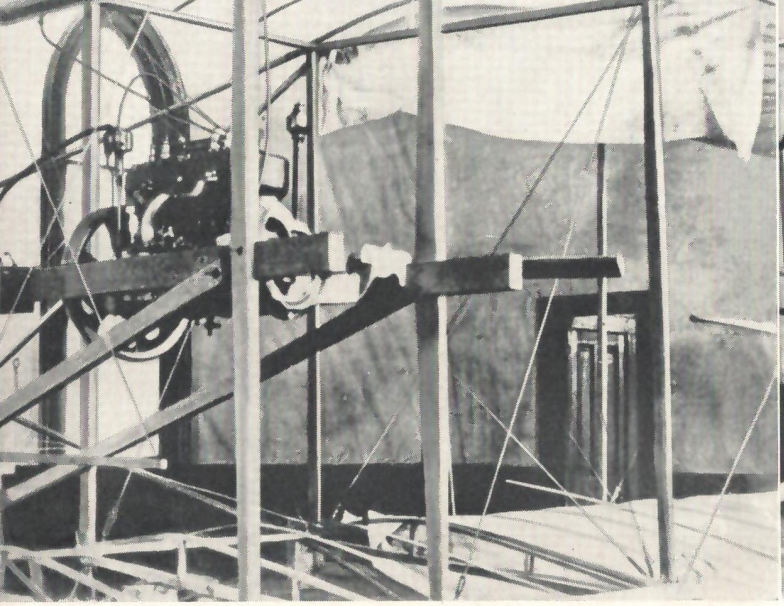
RUGS. A suggestion for you who don't want to let your rugs floor you but are anxious to make them last at least for the duration: Use the sweeper or vacuum at least twice a week if your rugs are much travelled and always retrieve bits of trash, crumbs, or ashes immediately with the sweeper before they have time to be ground into the rug. Don't use a broom on carpets if you can help it—the straws may catch in the carpet looms. A carpet sweeper is much better for those prized hooked rugs because the pull of the electrically-driven cleaner is too much for the loops. When a well-liked rug does wear out, cut the best parts into scatter rugs and bind the edges.

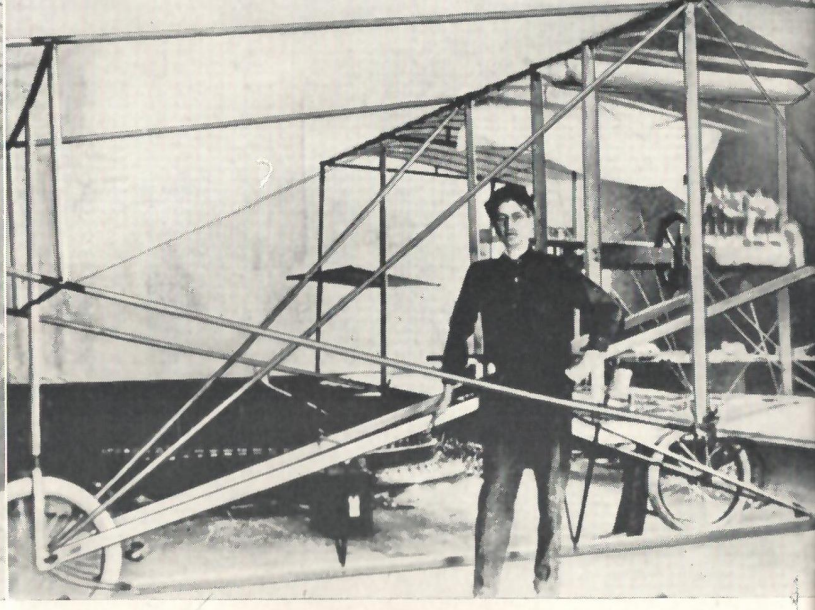
Did you know that . . . two pounds of grease produce enough glycerine to make dynamite for five rounds of anti-aircraft fire?

. . . that three weeks after the waste fats leave your kitchen they become munitions? The various steps from "grease to guns" include: preparation of waste fats by housewife; from housewife to meat dealer; from meat dealer to renderer; from renderer to the soap manufacture where the glycerine is removed . . . and then to the munitions maker.

★ ★ ★

The fresher a vegetable when it is used, the better the taste, the less the waste, and the more vitamins retained.





FROM OUT OF THE PAST. *When Glenn L. Martin recently opened a letter and from it tumbled two ancient photographs, there ended a search which has lasted for years—for they were pictures of the first Martin airplane taken inside the tiny church at Santa Monica. The pictures, which are reproduced above, were sent by Harold Hendrickson, now in the laboratory tool room of the Spencer Thermostat Company, Attleboro, Mass., who worked for Mr. Martin in the building of the ancient ship and is, as a matter of fact, the figure in the right-hand picture. These are the only known photographs of the plane taken in the interior of the church.*

A "Must" Delivered

(*Continued from Page* 5)

weapons have been extremely effective at very high altitudes, where the slightest physical effort causes exaggerated fatigue. Thus, enemy pursuit pilots find themselves running into a stream of heavy-calibre fire, regardless of altitude or direction of approach.

Martin's rise in the power-operated turret field has been vertical and swift. The original concept of a turret, far back before the present war, was a manually-operated 30-calibre machine gun within a transparent enclosure on the deck. The gunner was to stand on the floor and walk about under his gun as he manually rotated it from side to side or moved it up and down. He was expected to overcome by physical strength the pressure of high-speed air on the gun barrel.

Before manufacture of this early turret could be begun, the design was changed to have two 30-calibre guns, working as a unit, replace the one 30-calibre gun.

Meanwhile Europe had gone to war. Reports from the front caused our Army to call for larger calibre weapons. It was indicated that the solution would be in a turret housing one 50-calibre gun. It was to be power-operated in azimuth, thus balancing at least part of the air resistance. The gun was still to be elevated and depressed manually.

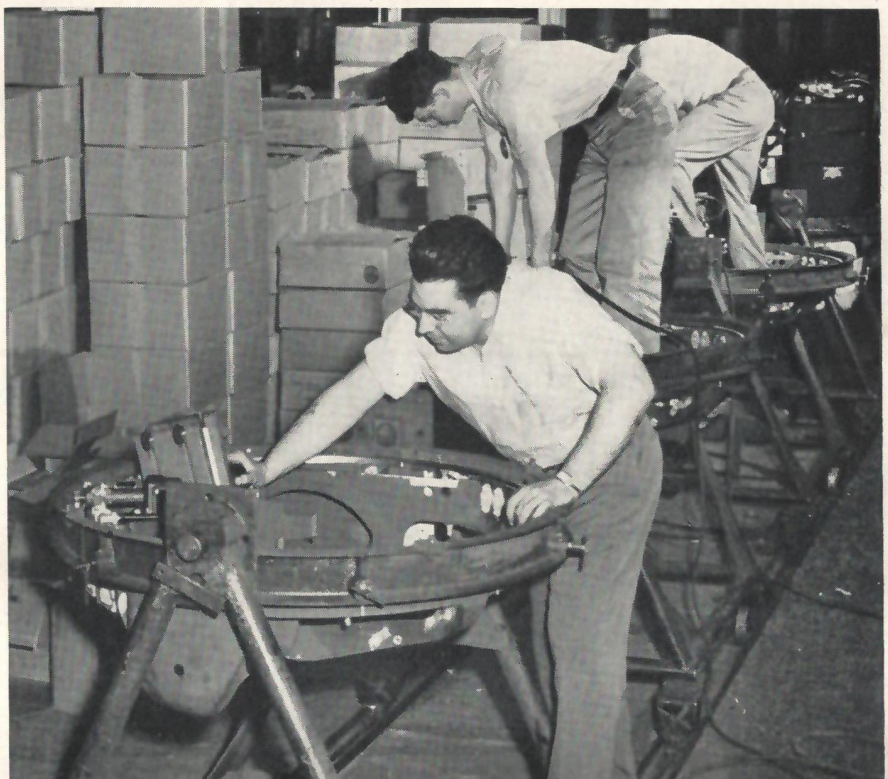
When Lieut. Gen. H. H. Arnold, Chief of the Army Air Forces, issued his famous "must" list in the Spring of 1940, two top items were power-operated turrets and self-sealing fuel tanks. Martin's pioneering in both fields placed it in the position of having both items figuratively at the door. The Navy already had the country's first power-operated turret on the Martin PBM-1—a hydraulic device mounting a rapidly firing gun. The Company added to its contribution by creating the Army's first power-operated turret. It contained two 50-calibre guns operated both horizontally and vertically by electricity, a seat for the gunner, continuous ammunition supply, and armor plating to protect the gunner from enemy fire.

MEANWHILE, Martin engineers were on the job of turning out the hundreds of production drawings necessary to put the turrets into high speed factory production. During this phase several novel features were designed and introduced. One was the casting of the inner ring as a single piece weighing 75 pounds. Another was the one-piece casting of the "chassis" of the turret.

An important feature of these turrets, next to their effectiveness in battle, is the speed with which their simplified design allows them to be assembled. The assembly fixture or jig moves slowly along a pair of channels in the factory floor, drawing behind it a line of similar fixtures, thus resembling a slowly moving train of railroad flat cars. As each fixture comes to a given station, the crew of that station steps aboard and performs its function, steps off at the end of the station, and walks back to board the fixture just arriving.

At the end of the line guns are placed in the turret and it is tested by being run through its paces. The turret then gets its coat of war paint, is crated and shipped to the point where it will be installed on the plane.

On a moving assembly line the turrets rapidly take form.



Ask The Man Who Flies One!

(*Continued from Page* 6)

Major Dill B. Ellis, commander of a Marauder Squadron in the New Guinea Theater, in praising the durability, maneuverability and striking power of the ship, said:

"We went out with five Marauders recently to bomb Lae. We were jumped by about 30 Zeros. My plane was hit in the nose. The navigator was sprayed with bullets and the bombardier's hand hurt badly. The bombardier managed to drop his bombs and then shoot down a Zero. A 20mm. cannon knocked a three-foot hole out of the plane's wing.

"More Japanese bullets went into our self-sealing gas tank and the rest of the plane, but we kept going. The turret gunner shot down another Zero. Coming home alone we were jumped by two more Zeros on my right wing. I turned the plane into them and we all went into a cloud, which enabled us to elude them and get home safely.

"Meanwhile the other ships were having trouble. One was shot down when bullets hit its left engine and it caught fire. Another's engine was shot out, but the plane kept on going for four hours and five minutes until it came in safely. Piloted by Capt. John C. O'Donnell, of Oakland, Md., it also shot down four Zeros on the return trip. Eight Zeros in all were shot down in this fight, to one Marauder lost."

LT. Wyatt F. Hundley, of Kansas City, who was a bombardier in the lead plane of a squadron in the Southwest Pacific, wrote his father, who makes parts for Marauders, shortly before his death:

"Dad, I'm in the best and fastest medium bomber in the world, and your company makes parts for it, so you know it's good."

Participating in a smashing offensive on Pantelleria, near Sicily, Marauder Pilot Lt. Robert H. Borden, of Beatrice, Ala., said:

'I kept my B-26, 'Birmingham Blitzkrieg,' on the bomb run as smooth as a boy carrying a basket of eggs. I told my bombardier if he didn't hit the target, I would drop him out. We brought him back."

Service Men Exemplify All-Out Co-operation

TYPICAL of the way in which Martin mechanical ability and ingenuity serve the war effort not only here in our own shops but also on such far-flung warfronts as Africa, is Martineer Harry S. Jolly, who with a number of fellow Martineers has just returned from a year there.

A little over a year ago the Martin organization was asked to contribute skilled mechanics to a pool of men who would go to Africa to service planes of the United Nations, regardless of what company had built them. To the Company, working full blast on its own production schedule, that meant temporarily giving up skilled men sorely needed here. But it was an unselfish contribution to the war effort, and immediately skilled men in our factories were asked to volunteer for the job.

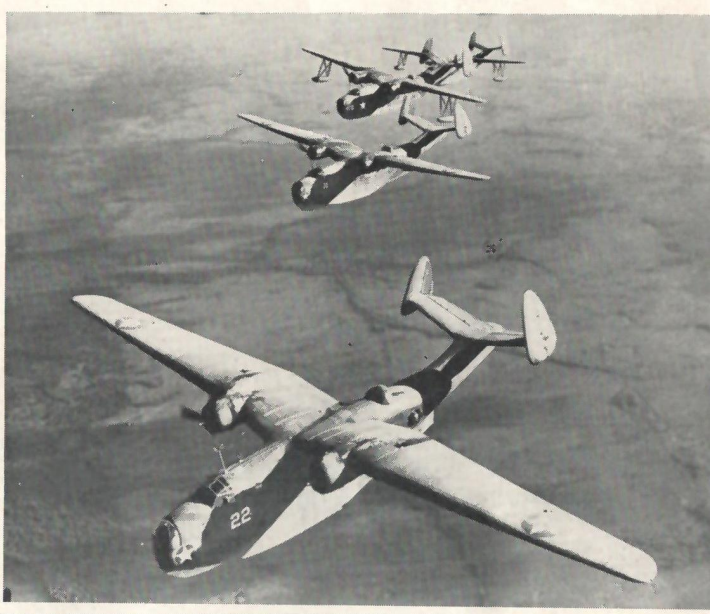
To the men it was also a chance for patriotic sacrifice. It meant leaving planes with which they were thoroughly familiar to work on planes they had never seen before. It means leaving their famlies and advancing unarmed — except with their Martin skill and the tools they were expert at using—into the very front lines of desert warfare.

The response to the call for volunteers was immediate. More men offered their services than could possibly be used. The Company took the responsibility of selecting from among the volunteers the 150 men it felt would do the best job, hold the Martin standard of workmanship highest. Harry Jolly and a band of men like him proudly moved off to Africa.

There they demonstrated the workmanship and ingenuity they had been known for here in our own plants. Their chief job was to patch up planes that had been riddled by gunfire or otherwise damaged. They had the difficulties one would expect working thousands of miles from home. Not the least of these difficulties was that a shipload of tools and materials they needed was lost.

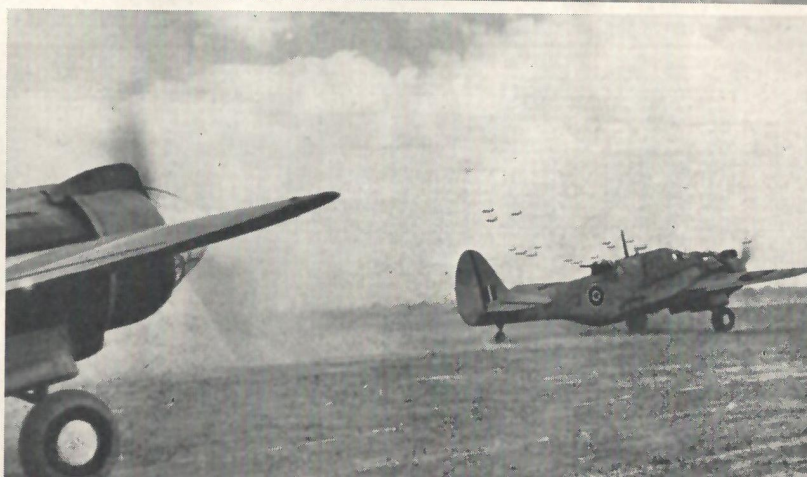
Rather than accept that as an excuse for not turning out the job, though, the Martineers did their work with scrap from Italian planes that had been shot down. They even used struts from Italian bombers to make tools.

Now, many of these men, having finished the time for which they were loaned and for which they volunteered, are back at the job here of turning out Martin bombers. Harry Jolly, for instance, is in the Inspection Department; others are in other departments. We are proud of the job they have done, just as we are proud of the job of our own Service Men, who look after our bombers on warfronts just as distant. They show the all-out cooperation that is getting this war won.



FROM THE WAR FRONTS. ***Right: A quartet of Martin Mariners begins a long patrol flight hunting enemy submarines, which they have helped chase from the seas. Note the two closest ships are PBM-1's. In corner: Baltimores taking off in the shuttle service attacks which routed the Afrika Korps from Africa. Below: Marauders (closest to camera) under lease-lend to Russia, await test flights by Soviet aviators at an airfield "Somewhere in the Middle East."***

Photos: Acme, British Combine, Press Ass'n.



Box Kites To Bombers

(*Continued from Page 7*)

And over in Experimental a fascinating development was taking place. Guards kept strict watch over a tiny, walled-off space where men were busily at work. Visitors who watched from afar were puzzled. What was this: Was Martin, the great exponent of lithe bombers and mighty leviathans of the air, building a pursuit ship?

THE mystery was partially solved about the time the Soviet Clipper was going through her paces. There appeared on the ramp a strange apparation. With all the lines of a big flying boat, including twin rudders and twin engines, it was hardly as large as a Piper Cub. It had gull-shaped wings and wing-tip floats. Like a new-born calf after its mother, it followed the giant Soviet Clipper down the ramp and took to the water with hardly a ripple.

Newsmen were intrigued. The comparison between the two craft was amusing indeed. But Martin people only shook their heads.

"It's the world's first flying model," they said.

"Of what?" the reporters persisted. There were only shrugs in answer.

The secret was kept for a long time—until the giant new B Building, largest assembly floor in the world was beginning to fill with full-grown hulls of Navy's new PBM-1, a long step forward in patrol bombers.

The flying model, it developed, was built to test the characteristics of this radically new type of flying boat. It proved invaluable in showing the hydronamic behavior of the type as Ebel and L. D. McCarty stepped from the dignified Soviet Clipper to the cockpit of the tiny craft to ride tricky water and air currents. It had only a single Martin motor in the hull, with belt drive to the twin propellers in nacelles. Today the little model hangs, all but forgotten, on the ceiling beams of A Building Final Assembly.

Meanwhile, the production of the PBM-1's was moving apace. Here was another step in Martin's progress in developing big patrol boats for the Navy—heavy, long-range craft, with living and dining accommodiations aboard for the crews on long-range patrol missions. No one knew it then, but these craft were to play an important part in the greatest of all wars, in which they would sweep the sealanes in search of enemy forces and would send to the bottom the marauding submarines of the Axis powers.

Meanwhile, Experimental had another project afoot. Another walled space was guarded. The prototype of another airplane that was to play a big part in a war whose clouds were already gathering was being rushed to completion. And in the new Engineering Building design engineers were drawing plans for another "impossible" airplane—thrice the size of the China Clipper.

(*Martin's bombers and buildings in the prelude to war will be described in the next chapter.*)

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All Purpose Plane

One of the Martin Service Men just back from Africa tells the following story illustrating the all purpose qualities of Martin planes. While the service group was in Gura, Eritrea, the wings of a badly shot-up Martin Maryland were shipped down from the Lybian Desert for repair. When the service men asked where the rest of the plane was, they were told that it was still in service up on the desert as a reconnaissance car.

Shortly after the wings were sent back, the engines were brought down for overhaul. This time the story went around that while the engines were being fixed, the ship was still being kept on active duty as a glider.

The PBM-1 Flying Model

Mother Builds, Son Flies, B-26's

She's mighty proud of her trim, spare, 21-year-old son Upton; he pilots a B-26 Marauder somewhere in North Africa. She, Mrs. Henry G. Ramsey, helps inspect the ship.

She gave up a Government teaching job, which she had held nineteen years, instructing home economics in the States, Alaska and the Aleutian Islands, to help her son, who had left the University of Utah after Pearl Harbor to volunteer for the Army Air Corps.

Although she hardly knew a bolt from a nut, she was very quick to learn. She started out as an inspector of upholstery and sound-proofing, but as her knowledge of things mechanical grew, she became in addition an inspector of Marauder rudders.

Mr. Ramsey was already inspecting PBM-3 Mariners in D-Building, when she came here last October. Since the day she punched in, she has never been absent or late, another way in which she is able to aid her son.

Recently she heard from her boy, who has flown two B-26's, one named the "Green Hornet," the other, "Martin Baby."

"I guess that kind of makes me grandmother to that plane," Mrs. Ramsey commented with a twinkle in her eye.

Upton's letter reads:

"Dear Mom and Dad—Your letter received yesterday. It was good to hear from you. I have been very busy for the past week. Jerry pays us a visit now and then. However, he does not do much harm. I got my second Jerry yesterday with my 'Martin Baby.'

"These B-26's really bring home the bacon. Are you and Dad helping to build them? If you are, you are building a plane that keeps Jerry guessing all the time. With her speed, she really splashes the African mud. You and Dad and others back there keep building 'em and we will fly them and get this thing over in a hurry.

"Keep on sending them to us. If the people will buy 'em, we will fly 'em. Received my Christmas presents in the mail yesterday. Thanks for everything. Will go now. Lots of love to both of you.

"UPTON."

★ ★ ★

THIS MONTH'S COVER

As the men stationed at the Service Training School near Army Division stood at attention for retreat, Photographer William Neal Siebold took the cover on this month's STAR.

It is at this school where ground crews are given intensive training for the maintenance of Martin Marauders all over the world. The complete story of the school will be told in pictures and text in the August issue of the STAR.

A BOMBER IS BORN

READY TO FIGHT

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THE job of designing a modern bomber and building it in quantity is one that takes the all-out teamwork of thousands of men and women. Employees of every department of the Martin organization—helping with just that sort of teamwork—take a hand in one way or another in the job.

Previous articles have given some idea of the process by which the new plane begins as an idea, develops into an "airplane on paper," and finally becomes an actual fighting weapon. All four major departments of the Martin organization work at the job: Contract Administration, Engineering, Manufacturing and Inspection.

The Army, for instance, decides from the job it must do that a certain new type of bomber is needed. The specifications "have been written on the battlefield." That is a way of saying that tactical plans and contact with the enemy more or less dictate the proposed plane's speed, range, service ceiling, size and number of bombs, offensive and defensive armament, number of crew, and many other items.

Selecting Martin's to build the new plane, the Army sends us a Type Specification outlining the characteristics and performance wanted. Engineering studies this Type Specification and, in consultation with Manufacturing and Inspection, devises an airframe that will do the job the Army wants done. These preliminary labors of Engineering, Manufacturing and Inspection take the form of an airplane on paper, shown from top, side, front and internally. The Army accepts the preliminary design and Contract Administration arranges the numerous financial transactions necessary to a project that is going to send swarms of the completed new plane to our men all over the world.

Meanwhile Engineering, Manufacturing and Inspection, working in close cooperation at all times, are at work on the job of designing the plane down to its smallest detail, gathering the materials and tools with which to build it, actually building the plane, and making sure that each of the many thousands of items of which the plane is made up accord with the agreed-upon specifications. Stated with disarming brevity, Engineering has the responsibility of designing the plane, Manufacturing has the task of gathering materials and tools and actually building it, and Inspection has the job of double-checking to see that the plane in every detail and as a whole comes up to the traditional high standards of Martin workmanship.

The result of this teamwork is that in a surprisingly short time finished planes are arriving at the doors of Final Assembly, ready to be rolled out and prepared to take to the air; go off to the part of the world where the Army plans to use them. The purpose of this article is to detail what happens from the time a plane rolls out the doors of Final Assembly until a Ferry Command pilot flies it away.

AS the plane is rolled onto the apron, a crew chief and his ground test mechanics begin the process of changing it from an inert mechanism to a living piece of fighting machinery. First they put gasoline in the fuel tanks and check for leaks. Then they re-check the oil tanks and hydraulic system to make sure they are properly supplied.

Engine accessories are re-checked to make sure they are properly installed: throttle, mixture and governor controls, exhaust stacks and cowl flap mechanisms. Each carburetor is flushed to make sure there are no "air locks" in it; the primer line is flushed to be sure it contains no particles of foreign matter, and the battery cut-off switches are checked to make sure they cut off properly.

The engines are now turned over three times by hand, in order to make sure no oil remains in the bottom of the lower cylinders. The ship is chocked fore and aft and the parking brake set. The crew chief is now ready to prepare to run the engines for the first time. He climbs into the cockpit and requests the inspector to get into the plane with him to witness the initial run of the engines.

Such details as the setting of fuel valves, checking of instruments like the tachometer and various gauges, turning on of booster pumps and priming of engines are next taken care of. Then the starter is switched on and the engine is running for the first time. During this initial run instruments and apparatus connected with the engines are checked; then the engines are idled and shut off. The ground test is stamped off as "O. K." by the inspector.

The ship is now put into preflight status and combed from stem to stern to make sure everything that belongs on the plane is there. The crew chief and flight line mechanics prepare the plane for actual flight, turn it over to the foreman of the flight line and of flight line inspection. Flight engineers from the flight test section inspect the plane for the Martin test pilot and sign it off as ready for test flight.

THE Martin test pilot—there are several of them and they are under Contract Administration—flies the plane for two and a half hours on a production test flight. During this flight instruments, controls and individual performance of the aircraft are carefully tested. Any unsatisfactory items are indicated on check sheets, and adjustments made by flight line mechanics. Usually the job that began when the Type Specification was received has been so thorough that unsatisfactory items are few and minor, and reflight is seldom required. The plane is then turned over to Army inspectors for acceptance.

Martin test pilots, by the way, are especially trained and qualified for this work. They must hold a CAA commercial license and have 1000 hours of flying experience before being accepted for training here. After completing the Martin course, they fly as co-pilots until checked out as pilots.

The final step before fly-away is Air Corps acceptance flight, performed by Air Corps pilots. Then the plane which began as a picture on paper is ready for the Ferry Command to fly it away to its destination.

How well each Martineer from President down has done his job on the plane is shown by the proud record of Martin planes practically all over the world. They helped reduce Rommel's famed Afrika Korps to death, dust and ashes. Before that they had been a major factor in the back-and-forth struggle for Africa that had been going on even before America entered the war.

They have been giving the Japs no end of trouble, too. The world knows the story of the Battle of Midway, where Martin planes helped turn back a full-scale Jap invasion. And Martin planes have sent many a submarine to the bottom.

One more installment of the story remains to be told. It concerns the work of the employees of the Martin Service Department. Stationed out near the warfronts, they do the big job of "keeping 'em flying." Their story will appear on this page next month.

Tomorrow

THE WORLD IS YOURS!

RIO, with guitars throbbing through the blue Brazilian night . . . Bagdad, where high-laden camels sway through narrow, latticed streets . . . Port Said, kaleidoscope of color, Babel of a hundred foreign tongues. Tomorrow, via air, the world is yours!

No flights of fancy are these flights of the future. Even now Martin aircraft are speeding the tools of war to the four corners of the globe. And when, after Victory, these lifelines become airlines, you will see and know the far lands of romance. Via air, two-week vacations will equal two months' today. Via air, all nations will be neighbors, drawn together by bonds of travel and commerce. Via air, the peoples of the world will come to know each other, thus building for permanent peace.

YOUR TICKET TO ROMANCE is a U. S. War Bond. Each Bond you buy hastens the day of Victory . . . the day when aviation turns from the wings of war to the wings of peace. Already on Martin drawing boards lie complete designs for giant airliners of 125 tons, capable of carrying scores of passengers, tons of freight, to the farthest of horizons. Other Martin aircraft of 250 tons and more are being planned. You can help translate these great plans into reality. You can help build the breath-taking new world of the future. Buy War Bonds to the limit of your ability . . . for your country today, for you tomorrow.

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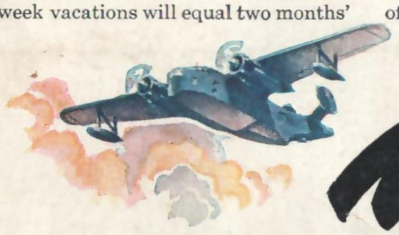
The Glenn L. Martin Co., Baltimore, U.S.A.



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